

ABSTRACT OF THE DISCLOSURE

When one-to-one correspondence is made between each pixel of an original image and each element of a threshold matrix, a density of each pixel in an output
5 image is represented by binary or multivalued, and a dot pattern of which the size corresponds to the threshold matrix is divided into small blocks, the threshold matrix is created such that the number of dots in each of all the blocks is made equal in all gray levels, the
10 dot patterns in the plural blocks are made mutually the same in all the gray levels, and at a boundary of the blocks where the dot patterns are made mutually the same, the dots are increased while taking conformity of the dot patterns, or the threshold matrix is created
15 such that order of dot increase is controlled between the blocks where the dot patterns are made mutually the same and the other blocks. Thus, the threshold matrix by which uniformity of the dot pattern is increased and a problem of texture is improved, a gray level
20 reproduction method which uses this threshold matrix, and a gray level reproduction apparatus which uses this threshold matrix are provided.